



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,967	02/10/2006	Tomoo Sugawara	46700121PUS1	2068
2292 7590 05/16/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER TESKIN, FRED M	
			ART UNIT 1713	PAPER NUMBER
			NOTIFICATION DATE 05/16/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

## Office Action Summary

**Application No.**

10/567,967

**Applicant(s)**

SUGAWARA ET AL.

**Examiner**

Fred M. Teskin

**Art Unit**

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Amendments presented in the Reply of March 29, 2007 are acknowledged.  
Claims 9-22 are currently pending and under examination herein.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 9, 11, 13 and 15-22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over US 7025851 to Caster et al ("Caster").

The basis of the rejection and the examiner's position regarding the applied art are adequately set forth in the previous Office action and that explanation is incorporated herein by reference.

Applicants' arguments filed March 29, 2007, have been fully considered but are not persuasive of error in the repeated rejection.

Noting that the genus of norbornene monomers taught to be useful in Caster includes Formula A through Formula D and Formula F, which is said to embrace millions of possible compounds, and that none of the exemplified embodiments of Caster are encompassed by the inventive polymerizable composition, applicants contend the artisan is not provided enough guidance to sift through all of the possible norbornene monomers of Formulae A-F to pick out one having a monovalent substituent group having an aliphatic carbon-carbon unsaturated bond, as presently claimed. Applicants further assert that the examiner has appeared to have analyzed the

Art Unit: 1713

facts in a similar fashion to that which has been forbidden by *In re Baird*, 29 USPQ2d 1550 (Fed. Cir. 1994). (Reply, pp. 8-9.)

Issue is taken with this position because, unlike *Baird*, here it is not necessary to select certain specific variables from the generic formulae of Caster in order to arrive at a norbornene monomer as claimed: 5-vinyl-norbornene, a species of applicants' claimed cycloolefin, is named in Caster as an exemplary substituted norbornene monomer. See the exemplary monomers enumerated in column 6, lines 50 *et seq.*, which include 5-vinyl-norbornene and ethylidene norbornene (ENB), the principal metathesizable monomer used in at least two working examples of Caster (Table 22, penultimate entry in cols. 55-56 and final entry at the top of col. 57). The close structural relationship (as position isomers) of these cycloolefins coupled with their listing as alternative monomers would have led an ordinarily skilled practitioner to utilize the former in lieu of ENB in the metathesizable composition of Caster. The motivation to do so stems from the expectation that compounds so closely related in structure would be expected to possess similar properties, including similar reactivity as metathesizable monomers in the Caster composition.

In further contrast to the fact situation in *Baird*, where the Court found that the reference taught away from selection of bisphenol A by focusing on more complex diphenols [*Baird*, 29 USPQ2d at 1522], here the focus of the reference is on structurally analogous monomers such as 5-ethylidene-2-norbornene as evidenced by the cited working examples of Caster.

Applicants further urge that test data presented in the table on page 37 of the Specification amounts to evidence of nonobviousness of the present invention.

Examiner disagrees. The cited table presents a comparison of inventive Examples 1 and 2, which include 3.3 and 4.7 mole % 5-vinyl-2-norbornene, respectively, with Comparative Example 1, containing 0 mole % 5-vinyl-2-norbornene. However, the closest exemplified embodiments of Caster employ mixtures of 5-ethylidene-2-norbornene, a position isomer of 5-vinyl-2-norbornene, and norbornadiene at a mass ratio equating to mole percentages within applicants' claims (as noted in the prior action at p. 3, bridging paragraph), as to which no direct comparison has been made. Further, applicants have neither shown nor asserted that Comparative Example 1 is sufficiently similar to the closest embodiments of Caster as to permit a conclusion respecting the relative effectiveness of the applicants' claimed composition and the compositions of the closest prior art. See *In re Payne*, 203 USPQ 245, 256 (CCPA 1979) (comparative testing must be sufficient to permit a conclusion respecting the relative effectiveness of applicant's claimed compounds and the compounds of the closest prior art). Nor have applicants explained why any difference in properties actually obtained may be validly extrapolated to polymerizable compositions throughout the scope of the claims, which encompass cycloolefin mixtures containing as little as 0.1 % by mole of the specified cycloolefin, and would be regarded as unexpected by those of ordinary skill in the art.

Relying on a graphical illustration comparing polynorbornene prepared from 5-ethylidene-2-norbornene using the Caster polymerization and polynorbornene prepared

Art Unit: 1713

from 5-vinyl-2-norbornene as per the present invention (Reply, p. 11), applicants assert that the vinyl pendant group is much easier to crosslink than the ethylidene pendant group of Caster.

However, insofar as the graphical presentation is intended to demonstrate nonobviousness, examiner notes that statements in the remarks section of a reply are not evidence and must be supported by an appropriate affidavit or declaration. See MPEP 716.01(c)(II). No objective evidence has been proffered to substantiate the asserted difference in crosslinkability between the polynorbornene of Caster and that of the present invention, and unsupported statements as to the former being "Hard to Crosslink" and the latter "Easy to Crosslink" are not evidence of unobviousness. In fact, it is unclear what the subjective terms "hard" and "easy" signify in terms of the magnitude of any difference in crosslinkability attributable to location of the pendant double bond.

Claims 9-22 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/567,782 in view of Caster et al.

The conflicting claims are maintained as patentably indistinct when the invention claimed in the copending application is considered in light of the teachings of Caster as detailed above and in the prior Office action.

Applicants' arguments filed March 29, 2007, have been fully considered but they are not persuasive.

Contrary to applicants' contention, the amendment made to the claims of the copending '782 application does not eliminate the double patenting issue, since the amended claims recite a weight range consistent with the presence of a chain transfer agent in the presently claimed composition (*cf.*, claim 10 herein). Further, as to applicants' request that the examiner let the first case go to issue and deal with the double patenting issues in the remaining case, such action is appropriate with respect to the *earlier filed* of the two copending applications. See MPEP 804(I)(B)(1). The '782 application having an earlier US filing date than the instant application and otherwise being in condition for allowance, the examiner has withdrawn the provisional obviousness-type double patenting rejection in that application and will address the double patenting issue in the present application.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9, 11, 13, 14, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0423521 A1 ("Endo").

Art Unit: 1713

Endo discloses molded specimens obtained by reaction-injection molding monomer compositions comprising a specific metathesis polymerization catalyst, a solution of 80/20 (mol %) dicyclopentadiene (DCP)/5-styryl norbornene (SNB) and dichlorodiphenylmethane (see page 8, 14-23 and Table 1, Example 2). From the depicted structure (page 5, ll. 40-45), SNB is seen to possess a monovalent group "including" an aliphatic carbon-carbon unsaturated bond at the terminal thereof, viz., vinylphenyl as recited in claim 21 and embraced by claims 9, 11, 13, 14 and 20. Further, dichlorodiphenyl methane is described in Endo as a compound "capable of generating a radical by the redox reaction" (page 4, ll. 31-40), and as such, qualifies as a "radical generating agent" as recited in independent claims 9 and 20. Accordingly, the prior art of Endo is found to disclose a polymerizable composition comprising the requisite components of the applicants' composition as claimed.

In view of the new ground of rejection, this action is made non-final.

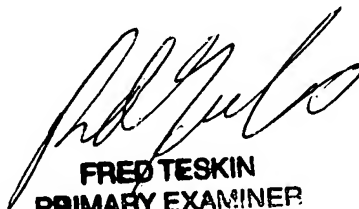
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.



Art Unit: 1713

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**FRED TESKIN**  
**PRIMARY EXAMINER**  
1713

FMTeskin/05-10-07